IDAHO
DEPARTMENT OF FISH&. GAME

Jerry M. Conley, Director

CLARK FORK HATCHERY
Annual Report

1 October 1980-30 September 1981

by

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ABSTRACT

During November, December, and January 1980-81, we spawned kokanee at Granite Creek (Sullivan Springs) kokanee trap. We took 4,186,664 eggs. Two-million were brought to Clark Fork Hatchery for rearing and release back into Sullivan Springs and Clark Fork River. The rest were sent to Sandpoint and Mullan hatcheries for rearing and release as above. All fish were marked with TM50 prior to release. The run of fish increased dramatically, as expected, with nearly 60,000 fish returning. This is four-times as many as the previous high count. This coming season we expect a run of from 117,000 to 240,000 fish, and 10-to-17-million e99s. These runs are the result of our fry releases in July and August. Research estimates that 50% of the total kokanee population in Pend Oreille Lake are hatchery fish.

No eggs were taken from our hatchery Kamloops broodstock, as they were not mature. We did attempt to catch Kamloops in the Clark Fork River, by hook-and-line, to take eggs. This effort was not very successful, as we only caught two fish, both gravid females. From these, we took approximately 12,000 eggs and fertilized them with precocious males from our hatchery stock. We will try it again next spring.

During May and June, we took 2,099,310 eggs from our westslope cutthroat broodstock. One-million-two-hundred-sixty-nine-thousand-forty of these were shipped to Sandpoint and Mullan hatcheries as eyed eggs for rearing. The rest were retained at Clark Fork for rearing to two-year-olds.

The 5+ westslope cutthroat broodstock became heavily infested with Copepods (Salmincola) after spawning, and this, combined with the age of the fish, resulted in heavy losses. We have tried Masoten and Ectoral, an insecticide, with no apparent success to date. The general concensus is that westslope cutthroat after five-years of age should be disposed of, as this problem arises every time.

From April through September, we planted 21,225 lbs, or 82,245 catchable rainbow, transferred from Hagerman Hatchery, in various lakes, reservoirs, and streams. Also, during this period we planted 86,402 westslope cutthroat fingerlings (719 lbs), 480 surplus west-slope cutthroat broodstock (600 lbs), 13,500 westslope cutthroat fry (6.75 lbs) in mountain lakes (Region 6), and 2,033,252 kokanee fry (2,216.8 lbs) in Sullivan Springs and Clark Fork River.

During December 1980, the Department's engineering crew installed new drains on our large raceways, and two small raceways (for the third time). The old drains would not handle the water volume through the raceways, as they were the same size as the inlet pipes.

OBJECTIVES

The objectives of the Clark Fork Hatchery are to:

1. Rear Kamloops and cutthroat brood fish.

2. Spawn, rear, and distribute trout and kokanee salmon.

3. Redistribute catchable-size rainbow trout, reared at Hagerman, into streams, lakes, and reservoirs, as a part of the state-wide hatchery program.

INTRODUCTION

Clark Fork Hatchery is located approximately 1.7-miles north of the town of Clark Fork on Spring Creek Road. It receives its water supply from Spring Creek, and requires 8 cfs of water to operate. The hatchery has 4 large raceways, 8'x312'; 2 medium-sized raceways, 6'x116'; 6 small raceways, 6'x53'; and 4 earth broodstock ponds with concrete catch basins and keyways, 16'x195'; and is capable of raising 40,000 pounds of fish and producing 5,000,000 eggs at capacity. We have a kokanee trap located on Sullivan Springs, about 30-miles from the hatchery, which produces up to 10,000,000 eggs annually.

FISH PRODUCTION

Kokanee (Sullivan Springs, late spawning Pend Oreille)

Green eggs --- 4,186,664
Eyed eggs ---- 1,989,576 (at Clark Fork)
Shipped ------ 1,013,260 (green eggs to Sandpoint)
Shipped ------ 1,089,180 (green eggs to Mullan)
Eye-up % ----- 95.4% (at Clark Fork)
Planted ------ 2,033,252 (Pend Oreille tributaries)

Five Year Plus Westslope Cutthroat (Hatchery Broodstock)

Green eggs --- 2,099,310
Eyed eggs ---- 1,815,400
Eye-up % ----- 86.5%
Shipped ------ 631,040 (eyed eggs to Sandpoint)
Shipped ------ 638,000 (eyed eggs to Mullan)
Planted ------ 13,500 (Region 6 mountain lakes)
On hand 10/1 - 526,975

Kamloops

No eggs were taken from our hatchery broodstock, as they were not mature; however, we did take eggs from two wild Clark Fork River females and fertilized them with precocious hatchery males.

Green eggs	11,880
Eyed eggs	11,761
Eye-up %	98.9%
On hand	10,773

FISH HEALTH

Once again we had a variety of fish health problems, though not nearly as bad as last season. Shortly after spawning the 5+ west-slope cutthroat broodstock became heavily infested with Copepods (Salmincola). This, combined with the age of the fish and general condition, resulted in a nearly 90% loss of these fish. We tried various treatments in conjunction with Klontz and Chako (University of rdaho), including Masoten or Dylox at 0.25-0.30 ppm; three hour drip for two days, for three consecutive weeks. Various concentrations of Ectoral (an insecticide) administered orally and mixed with feed on three separate occasions for a ten day period. None of the treatments were really successful. The fish are still dying, and I feel that age is a major contributing factor. Everyone I've talked to who raises this particular fish has stated that they only spawn their fish once at four years of age and then release them. We have a year class missing until after next spring, but after that we can do this.

These fish were also injected with Erythromycin phosphate to control bacterial kidney disease. This treatment was apparently successful, as we see no gross symptoms in the fish. Also, all eggs taken from these fish were water-hardened in 20 ppm Ery PO4 for one hour to control BKD.

During September, we had a minor outbreak of bacterial gill disease. This coincided with similar outbreaks at Sandpoint and Mullan hatcheries of the same fish. We caught it early enough and treated with Cutrine at 1.5 oz/cfs and Purina 4X at 7 oz/cfs for three days. Mortality was very low for this particular disease; the treatment worked very well.

We have treated nearly all the fish on the station for various external and internal bacteria at different times during the year, with no significant mortalities, except for the broodstock. Bird predation was fairly heavy on all fish until we covered the ponds and raceways with screens.

FISH TRANSFERS

We transferred 100,000 westslope cutthroat fry to Mullan Hatchery for rearing.

We received from transfer:

97,650 (18,900 lb) catchable rainbow (Hagerman).
194,067 westslope cutthroat fingerling from Sandpoint.
6,000 westslope cutthroat 6"+ from Rochat Pond.

FISH RELEASES

Species	Number	Pounds	Location
Rb. Catchable	82,245	21,225	Lowland lakes and streams
Ct. Fingerling	86,402	719	Lowland lakes and streams
Ct. broodstock	480	600	Granite Cr. (Priest L.)
Ct. fry	13,500	6.75	Mt. lakes (Region 6)
Kokanee	2,033,252	2216.8	Sullivan Spr. and C.F. River

SPAWNTAKING OPERATIONS

Clark Fork Hatchery

Westslope ct---2,099,310 eggs @ 290/oz; 826 eggs per female.

Clark Fork River

(Wild Kamloops)---11,880 eggs @ 135/oz; 5,940 eggs per female.

Sullivan Springs

Late spawning kokanee---4,186,664 @ 264-290/oz; 400 eggs per female.

FISH FEED UTILIZED

Type	Size	Pounds	Cost
Rangens Ct.	#4	100	$ 31.64
Oregon Moist	All sizes	35,950	$13,123.64
	Total	36,050	$13,155.28

HATCHERY IMPROVEMENTS

Capital outlay items included: 1981 Chevrolet one-ton pickup, Oxy-Acetylene welding outfit, various hand tools, new drains on all large and two small raceways.

SPECIAL STUDIES

University of Idaho Cooperative Fisheries Unit conducted a hooking mortality and learned response study on small lots of cutthroat and rainbow during the summer and fall. We were not actively involved in this other than setting up lots of fish and recording daily mortalities. Results of the study have not been published yet.

MISCELLANEOUS

Our 5+ westslope cutthroat brood fish were, and are, heavily infested with Copepods, and began dying shortly after spawning. We have lost approximately 90% of them so far, with no end in sight. Results of chemicals and treatments so far are nil. I would recommend that cutthroat at this station be spawned only once at age 4+ and then released, as they are not affected significantly by parasites, etc. at this age, and produce excellent eggs. We are missing one year class, but after next spring we will have the fish to do this.

Approximately 3,700 people visited the hatchery during the year from all over the United States and a good part of the world.

This year was a very low water year, and during August, September, October, and November we were beginning to wonder if we would have to plant out all our fish to avoid losing them. We weathered the crisis and the water has come back up some. Still very low though:

HATCHERY NEEDS

1. A new pipeline from the small spring to hatchery building is badly needed.

2. Water alarms on the hatchery building and incubator room water supplies.

3. New concrete head box on supply pond pipeline to hatchery building.

4. Six new small raceways to replace old, unuseable ones.

5. Concrete side walls on all brood ponds to prevent erosion, weed, and algae growth.

6. Smaller, more useable arc welder for shop.

7. Hatchery building needs painting on the inside.

ACKNOWLEDGEMENTS

Hatchery staffing during the fish year included:

Gary Baker, Fish Hatchery Superintendent II
Alan Williams, Fish Hatchery Superintendent I
Bruce Thompson, Fish Culturist
Joe Taylor, CETA employee.